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A Review on *Salyajanya Nadi Vrana* (pilonidal sinus) with clinical approach

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ABSTRACT

A Pilonidal Sinus is a common disease of the natal cleft. Pilonidal Sinus is a track which contains hairs. The incidence of the disease is calculated to be 26 per 100,000 people. Pilonidal disease has a male predominance with a ratio of 3:1. There are several methods to treat pilonidal sinus, but the recurrence rate is more in modern surgical interventions. According to Ayurveda it can be correlated to *Salyajanya Nadi Vrana* (pilonidal sinus), a type of *Nadi Vrana* (sinus). Whose etiopathology is described in *Nidanasthana* and treatment aspect in *Chikitsasthana* of *Susrutha Samhita*. *Susrutha* mentioned the application of *Kshara* (caustic alkali) and *Ksharasutra* (Seton) in the management of *Nadivrana*. Studies shows that by Ayurvedic treatment, it helps to reduce recurrence rate, even though *Nadivrana* is said to be *Kricchrasadhya* (difficult to cure). Hence successful management of this disease depends on the knowledge of pathogenesis, patients presentation and knowledge on treatment aspects.

Key words: *Pilonidal Sinus, Salyajanya Nadi Vrana, Kshara, Kshara Sutra.*

INTRODUCTION

A pilonidal sinus is an infection under skin and it is a cavity containing hairs that is found at the base of the spine (Hair-containing sinus or abscess in the sacro-coccygeal area). Pilonidal means a 'nest of hair'. It is a benign disease that often takes a chronic course. Mainly affects inter gluteal furrow.

It occurs in young adults. Pilonidal disease usually affects young adults and has a male predominance with a ratio of 3:1. Pilonidal disease was first described by Herbert Mayo in 1833 and named by

Hodges in 1880. It is also called as 'jeep disease'.

According to Ayurveda it can be considered as *Nadi Vrana*. '*Nadi*' - means a tract and '*Vrana*' - means an ulcer. So an ulcer, which is having a tract, is called as '*Nadi Vrana*'. Among eight types of *Nadi Vrana*, *Salyajanya Nadi Vrana* can be considered as pilonidal sinus as '*Bala Shalya*' (hair) is an important factor in causing the *Shalyajanya Nadi Vrana*.

MATERIALS AND METHODS

Related references were collected from classical texts of Ayurveda, modern text books, various publications, internet and research papers.

Aetiology

According to Ayurveda, when the surgeon drains the *Apakwa Vrana Shopha* (immature abscess), not draining a matured *Vrana Sapha* (abscess), when the patient does *Ahita Ahara* and *Vihara* (unhealthy diet and life style), due to *Salya* (foreign body), the '*Nadi Vrana*' occurs.

Pilonidal sinus has a male predominance about 74% due to male sex hormone, hairy body, more sweat

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and maceration. It occurs in younger age group due to active pilosebaceous gland. Dark people are less affected due to stiff hair.

Pathogenesis

According to Ayurveda, if the *Shalya* (foreign body) get lodged within the body, and if left to stay for long time it forms a tract or *Gati*, which tends to burst open the skin. From this tract discharge of *Puya* (pus), which is frothy (*Phenayukta*) and mixed with blood may be seen. The discharge comes continuously associated with pain and increases on movement of the part. This type is called as *Shalyajanya* type of *Nadivrana*.

During sitting the buttocks take the weight of body and causes vibration and friction. It causes shedding of hair and thus it accumulates in gluteal cleft and enters into sweat glands. After the initial entry of hairs, dermatitis and inflammation start around the loose hair. Once the sinus is formed, the intermittent negative pressure of the area may suck other loose hair into pit.^[1]

The cause for pilonidal sinus due to foreign body reaction is supported by histological examination. It is considered as an acquired disease due to hair insertion. This is the most accepted theory.^[2]

Hair insertion occur due to following reasons

1. The Invader - Loose Hair
2. The Force - Which causes insertion
3. The Vulnerability of the skin - i.e., Obesity, Moisture and Hairy back

Pilonidal disease = Hair (H) x Force (F) x Vulnerability (V)^[2]

Other risk factors

- Vibratory movements - Prolonged sitting, Long Journeys
- Negative suction of loose hair - Skin breach - Inflammation, Infections

Types of Nadi Vrana

1. *Vataja*
2. *Pittaja*

3. *Kaphaja*
4. *Vata-Pittaja*
5. *Pitta-Kaphja*
6. *Vata- Kaphja*
7. *Sannipataja*
8. *Shalyajanya (Agantuja Nadi Vrana)*

These are the eight types According to *Susrutha*.^[3] According to *Vagbhata* it is of five types due to *Vata*, *Pitta*, *Kapha*, *Sannipathaja* and *Salyaja*.^[4]

CLINICAL PRESENTATION

Midline pits are distinguishing feature and can be identified 4 to 8cm from Anus.

The disease is seen in natal cleft in sacrococcygeal region.

On inspection discharge which is serosanguinous or purulent can be seen. Tuft of hair may be seen in the opening of sinus.^[5] Patient may present with throbbing and persistent type of pain.

During palpation a tender swelling seen just above and on either side of the coccyx in the midline.

Directions of spreading of pilonidal sinus: Direction of pilonidal sinus 93% runs cranially and 7% runs towards the anus from the skin pit. (fig. 1)

Management of Nadi Vrana

1. Emergency treatment of Abscess^[6]

Pilonidal Abscess - I & D is the best treatment choice, since 50% may not recur.

In the pilonidal abscesses the patients will be having severe pain and tenderness. Hence incision and drainage is the treatment of choice.

Technique : Infiltration of local anesthesia, around the abscess. A small ellipse of skin is excised and the contents of the cavity is evacuated.

2. Chronic Pilonidal Sinus - Still controversial

Options

1. Simple excision
2. Excision and Marsupilation

3. Excision and Primary Closure
4. Hair removal, scraping, Fibrin Glue application
5. Karydakis Procedure
6. Bascom's Procedure
7. Modified Karydaki's Flap Procedure
8. Z Plasty, V-Y Plasty, Limberg Flap

Treatment according to Ayurveda

The *Samanya Chikitsa* (general treatment) of *Nadi Vrana* is explained by different *Acharyas* as follows:

1. *Sushruta* has explained separate treatment for all types of *Nadi Vrana*.
2. Application of the *Pratisarneeya Kshara* (caustic alkali) as a general line of the treatment in all the types of *Nadi Vranas* mentioned while describing about the indications of the *Pratisarneeya Kshara* (caustic alkali).^[7]
3. Performing the *Bhedana Karma* (Incision) in all the types of the *Nadi Vrana* mentioned while describing about the indications of the *Bhedyo Vyadhis* (Incisional diseases).^[8]
4. *Chedana* (Excision) is indicated in *Salya* (foreign body) lodged in *Mamsa* (flesh) in *Chedyo Vyadhis* (excisional disease).^[9]

According to above, treatment principle for the *Nadi Vrana* can be summarized as follows.

1. Surgical technique - *Patana Karma* (incision).
2. Para-surgical technique - *Kshara Karma*, *Kshara Sutra*.

Surgical technique

Patana Karma means, a wise physician should first of all probe the *Gati* (tract) of the *Nadi Vrana* and then finds out the exact direction of the track. Then the whole length of it should be opened followed by *Shodhana Ropanadi* (cleaning and healing) general procedures. According to *Charaka* '*Patana*' is indicated in *Nadivrana* and *Antah-Salya* (foreign body inside body).^[10]

Para-surgical procedures

1. *Kshara Karma* (*Pratisarneeya Kshara*) (external caustic alkali)
2. *Kshara Sutra* (seton)

Kshara Karma

It is a procedure where in *Bhedana* (incision), *Chedana* (excision) and *Lekhana* (scraping) are performed by employing some specially formulated *Yogas* called *Kshara* (caustic alkali).

Patient is made to lie down in prone position. Then probing is done to see the length of the tract. With the help of scalpel an elliptical incision is made around the pilonidal sinus. The whole sinus tract will be excised deep upto the presacral fascia. After the above *Chedana Karma*, *Pratisarneeya Kshara* will be applied. After application of the *Kshara* wait for 100 *Matra Kala* (1 minute), then wash with *Jambeera Swarasa* (lime juice) to operative wound. During post-operative period daily dressing will be done till wound gets completely healed. (fig. 2)

Kshara Sutra^[11]

It is a special technique of excision without the use of knife by means of mechanical pressure and chemical action. *Sushruta* has indicated the use of *Ksharasutra* in *Nadi Vrana* where the patients are emaciated, timid and located at the *Marma Sthanas* (vital parts). Here probing is done through the opening and tract traced till its blind end and an opening is made at that site. Probe removed through created opening after feeding of *Kshara Sutra* and then ligated properly, weekly *Kshara Sutra* changing will be done till the tract cut off. (fig. 3)

Treatment of *Shalyajanya Nadi Vrana*

The *Shalya* is first extracted by an incision into the sinus. Then having fully cleansed the channel, the ulcer should be purified by using *Madhu* (honey), *Ghrita* (ghee) and *Tilakalka Lepa* (paste of sesame) for *Shodhana* and *Ropana* purpose.

Preventive measures

1. Local hygiene by hair removal.
2. Weight maintenance.

3. Diet and life style correction.

DISCUSSION

Application of *Kshara Sutra* and *Kshara* helps to prevent recurrence rate. Both procedures can be done on out patient basis. It is a minimally invasive procedure. It performs *Chedana*, *Bhedana* and *Lekhana* property among *Ashtavidha Sastra Karma*.

CONCLUSION

Pilonidal sinus is a therapeutic challenge. Evidence supports both open and closed operative approaches has no much difference in recurrence rate. By doing *Ksharasutra* and *Kshara* application recurrence rate is quite negligible since all pits adjacent to sinus track are scrapped. *Kshara* has anti inflammatory and antibacterial property. Local removal of hair and sitz bath plays an important role in avoiding recurrence rate.



Fig. 3 : Hair drained out from a *Kshara Sutra* applied pilonidal sinus.

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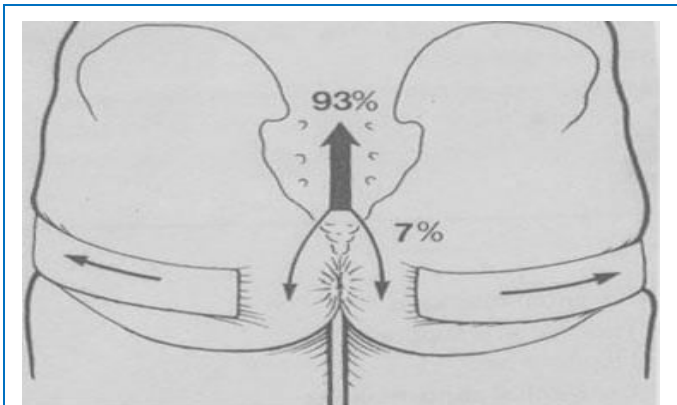


Fig. 1: Direction of pilonidal sinus

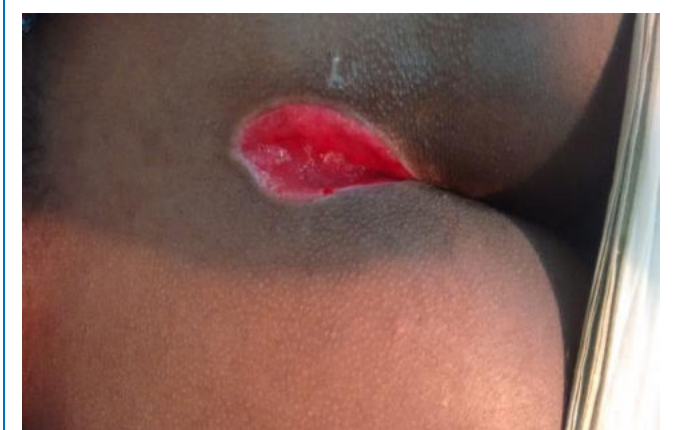


Fig. 2: *Kshara* application after *Chedana Karma*

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